CLAIMS

1. A method of activating a radiotelephone operable in a spread-spectrum multiple access radiotelephone system, the method comprising the steps of:
activating at least a portion of a searcher receiver;
receiving a transmitted signal; and
activating at least one demodulation branch after a predetermined event occurs, the predetermined event occurring after activating at least a portion of the searcher receiver.

2. The method of claim 1 wherein the transmitted signal comprises at least one pilot signal that is spread by a pseudorandom (PN) sequence.

3. The method of claim 2 wherein the predetermined event comprises acquiring a PN sequence timing of a pilot signal that produces a correlation energy above a predetermined threshold.

4. The method of claim 3 further comprising synchronizing the at least one demodulation branch to the at least a portion of the searcher receiver after activating the at least one demodulation branch.

5. The method of claim 4 further comprising:
activating a system timing unit after acquiring the PN sequence timing; and
synchronizing the system timing unit to the at least one demodulation branch after synchronizing the at least one demodulation branch.

6. The method of claim 5 wherein synchronizing the system timing unit occurs at a predetermined PN chip boundary of the PN sequence, the predetermined PN chip boundary denoting less than a full length of the PN sequence.

7. The method of claim 6 wherein synchronizing the system timing unit comprises loading state information into the system timing unit, the state information including a state of a PN roll count and a state of a PN position count.

8. A method of activating a radiotelephone operating in a slotted paging mode, the radiotelephone operable in a code division multiple access (CDMA) radiotelephone system, the method comprising, in combination:
activating a searcher receiver;
detecting a pilot signal;
acquiring a PN sequence timing related to a PN sequence associated with the pilot signal;
activating at least one demodulation branch after activating the searcher receiver; and
synchronizing the at least one demodulation branch to the searcher receiver.

9. The method of claim 8 further comprising:
activating a system timing unit after activating the searcher receiver; and
synchronizing the system timing unit relative to the at least one demodulation branch after synchronizing the at least one demodulation branch.

10. The method of claim 9 wherein synchronizing the system timing unit occurs at a predetermined PN chip boundary of the PN sequence, the predetermined PN chip boundary denoting less than a full length of the PN sequence.

11. The method of claim 10 wherein synchronizing the at least one demodulation branch to the searcher receiver comprises:
synchronizing a branch timing unit to the searcher receiver; and
loading state information from the searcher receiver into the at least one demodulation branch.

12. The method of claim 11 further comprising decoding an information signal with the at least one demodulation branch after synchronizing the system timing unit.

13. The method of claim 8 wherein the at least one demodulation branch is activated after acquiring the PN sequence timing related to the PN sequence associated with the pilot signal.

14. An apparatus for operating a code division multiple access (CDMA) radiotelephone in a slotted paging mode, the apparatus comprising:

a searcher receiver periodically activated to find a pilot signal of suitable signal strength, the searcher receiver acquiring a pseudorandom noise (PN) sequence timing of the pilot signal after each periodic activation of the searcher receiver;

at least one demodulation branch coupled to the searcher receiver; and

control circuitry to periodically activate the at least one demodulation branch after each periodic activation of the searcher receiver and to direct the at least one demodulation branch to synchronize relative to the searcher receiver after each periodic acquiring of the PN sequence timing.

15. The apparatus of claim 14 further comprising a system timing unit coupled to the at least one demodulation branch, the control circuitry periodically activating the system timing unit substantially after each periodic activation of the searcher receiver, the control circuitry directing the system timing unit to synchronize relative to the PN sequence timing of the pilot signal after each periodic synchronization of the at least one demodulation branch.

16. The apparatus of claim 15 wherein the control circuitry comprises a microprocessor.

17. The apparatus of claim 16, wherein the system timing unit synchronizes relative to the PN sequence timing of the pilot signal by receiving PN state information from the at least one demodulation branch.

18. The apparatus of claim 17 wherein the system timing unit synchronizes at a predetermined PN chip boundary that occurs more frequently than a PN roll boundary.

19. The apparatus of claim 14 further comprising a real-time PN generator coupled to the searcher receiver.

20. The apparatus of claim 19 further comprising:

a receiver sample buffer coupled to the searcher receiver, the receiver sample buffer for storing samples of detected pilot signals; and

a high-speed PN generator for searching the stored samples for a pilot signal and associated pilot signal PN timing that produces a correlation energy above a predetermined threshold.

21. A method of activating a code division multiple access (CDMA) radiotelephone operating in a slotted paging mode of a CDMA cellular telephone system, the method comprising the steps of:

activating a searcher receiver;

acquiring, with the searcher receiver, a pseudo-random noise (PN) sequence timing of a PN sequence associated with a pilot signal; and

activating at least one demodulation branch after activating the searcher receiver.

22. The method of claim 21 wherein the at least one demodulation branch is activated after acquiring the PN sequence timing of the pilot signal.

23. The method of claim 22 further comprising:

slewing a PN timing of the searcher receiver to the PN sequence timing of the pilot signal; and

synchronizing the at least one demodulation branch to the PN timing of the searcher receiver after slewing the PN timing of the searcher receiver.

24. The method of claim 23 wherein synchronizing the at least one demodulation branch comprises parallel loading PN state information from the searcher receiver into the at least one demodulation branch.

25. The method of claim 23 further comprising:

activating a system timing unit after activation of the searcher receiver; and

synchronizing the system timing unit to the at least one demodulation branch after slewing the PN timing of the searcher receiver.

26. The method of claim 25 wherein synchronizing the system timing unit occurs at a predetermined PN chip boundary within the PN sequence of the pilot signal, the predetermined PN chip boundary being less than a full length of the PN sequence of the pilot signal.

27. The method of claim 22 further comprising synchronizing the at least one demodulation branch to the searcher receiver after activating the at least one demodulation branch.

28. The method of claim 22 further comprising synchronizing the at least one demodulation branch to the searcher receiver after acquiring the PN sequence timing of the PN sequence associated with the pilot signal.

29. The method of claim 28 further comprising slewing the at least one demodulation branch to the PN sequence timing of the PN sequence associated with the pilot signal.

30. The method of claim 29 further comprising:
activating a system timing unit after activation of the searcher receiver; and
synchronizing the system timing unit to the PN sequence timing of the PN sequence associated with the pilot signal after slewing the at least one demodulation branch.

31. The method of claim 30 wherein synchronizing the system timing unit comprises loading state information representative of the PN sequence timing into the system timing unit.

32. The method of claim 21, wherein acquiring the PN sequence timing with the searcher receiver comprises:
storing samples of a plurality of detected pilot signals at a first rate; and
searching at a second rate the stored samples to find the PN sequence timing of the pilot signal that produces a correlation energy above a predetermined threshold, the second rate being a higher speed than the first rate.

33. A method of activating a radiotelephone during slotted paging mode operation, the radiotelephone operable in a code division multiple access radiotelephone system, the method comprising, in combination:

activating a searcher receiver;

detecting a pilot signal that produces a correlation energy above a predetermined threshold;

acquiring a PN sequence timing of the pilot signal with the searcher receiver;

activating a system timing unit after acquiring the PN sequence timing of the pilot signal;

activating at least one demodulation branch after acquiring the PN sequence timing of the pilot signal;

synchronizing the at least one demodulation branch to the PN sequence timing of the pilot signal after acquiring the PN sequence timing; and

synchronizing the system timing unit to the PN sequence timing of the pilot signal after synchronizing the at least one demodulation branch.

34. The method of claim 33 wherein synchronizing the system timing unit occurs at a predetermined PN chip boundary of a PN sequence of the pilot signal, the predetermined PN chip boundary being less than a full length of the PN sequence.

35. The method of claim 33 wherein synchronizing the at least one demodulation branch comprises loading state information from the searcher receiver into the at least one demodulation branch and into a branch timing unit.

36. A method of activating a radiotelephone in a slotted paging mode, the radiotelephone operable in a code division multiple access (CDMA) radiotelephone system, the method comprising the steps of:

programming a pseudorandom noise (PN) sequence awake state;

activating at least a portion of a searcher receiver;

loading the PN sequence awake state;

incrementing at a first rate the PN sequence awake state to generate a local PN sequence;

detecting at least one pilot signal having an associated PN sequence;

storing digital samples of the at least one pilot signal at the first rate;

searching at a second rate for a pilot signal and an associated PN sequence phase that produces a correlation energy above a predetermined threshold, the second rate faster than the first rate;

slewing the local PN sequence to the PN sequence phase associated with the pilot signal;

activating a system timing unit after the step of slewing;

activating at least one demodulation branch after the step of slewing;

synchronizing a PN timing of the at least one demodulation branch to the PN sequence phase associated with the pilot signal after the step of slewing; and

synchronizing a PN timing of the system timing unit to the PN sequence phase associated with the pilot signal after the step of synchronizing the PN timing of the at least one demodulation branch.

37. The method of claim 36 wherein the step of synchronizing the PN timing of the system timing unit occurs at a predetermined PN chip boundary that is less than a PN roll boundary of the PN sequence associated with the pilot signal.